Ontario fish and wildlife Review

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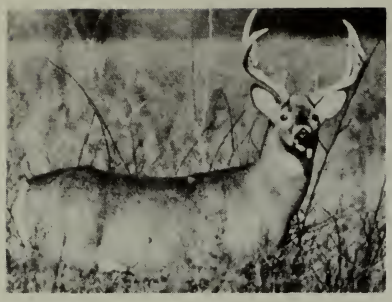

The white-tailed deer on the cover is a challenge to all hunters, but especially to the bowhunter—the man who really earns his deer—as Clark Pell explains in his review of the new season in southwestern areas.

It has also been a challenge to William Mathison, the historian of Wildlife Branch, who has taken the time and trouble to report on the importance of deer to Indians B.C. (before Champlain).

Red-tailed hawk. "These magnificent birds thrill groundlings . . ." Read Bill Creighton's account for yourself and see back cover.

What is Tiny Marsh? It is an achievement in man's willingness to restore his natural resources . . . . So says Arnie O'Donnell.

Ontario fish and wildlife Review

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The goal of the Ministry of Natural Resources is to provide opportunities for outdoor recreation and resource development for the continuous social and economic benefit of the people of Ontario, and to administer, protect and conserve public lands and waters.

Ontario

MINISTRY OF NATURAL RESOURCES

HON. LEO BERNIER, Minister

W. Q. MACNEE, Deputy Minister

The Schizophrenes

Eating liver and bacon in a highway restaurant, Mr. Stanley Sincere notices men in hunter's garb at another table. He grunts with virtuous disapproval and announces: "Hunting is a blood sport." Mrs. Stella Sincere, his virtuous wife, looks up from her lamb chops to agree: "Hunting is cruel." Little Static Sincere lowers his hamburger like a good boy to ask: "Daddy, why don't they stop hunting?"

Watch the Sinceres in action. On a hot Saturday in summer, see them close the windows and lock the family dog in a stifling car while they shop for the Sunday roast. And they call hunters "cruel".

Observe the Sinceres' habits. Their heavy meat-eating supports cattle ranches, stock farms, abattoirs and meat counters. They approve the systematic slaughter of domestic animals, thus condoning wholesale terror for some of their fellow creatures.

Listen to the Sinceres talk. Hear them say "blood sport" out of mouths filled with meat. They fuss over fawns, but they have no feeling for baby calves that are butchered for veal. Like many of us, they close their minds to the way meat is prepared for consumption.

Consider the Sinceres' education. They know little about wild animals and little or nothing about the natural hazards that prevent wild animals from reaching old age, whether hunted or not. They are not aware of habitat limitations. They do not understand that starve-outs and disease-caused die-offs are nature's harsh ways of reducing overcrowded populations.

Beware the Sinceres' prejudice. They ignore the outdoor experience which attracts hunters and keeps them in the field for days or weeks. They see only the split-second of the kill. They refuse to see that a hunter's bullet is usually kinder than natural processes. They turn their backs on the fact that deer have a sporting chance and cattle have no chance at all.

Look critically at the Sinceres and their double-think contradictions—compassion for some animals and indifference to others. Perhaps they should be excused as children of their time. Perhaps they should be accused of intellectual dishonesty.

Speak to the Sinceres, the meat-loving, Bambi-loving schizophrenes. Tell them gently, tell them nicely, but tell them that meat eaters may not condemn hunting.

Bowhunting is quiet and inconspicuous.

BOWHUNTING—DEER THE HARD WAY

by Clark E. Pell
Extension Wildlife Biologist, Lake Erie District
(Photos by the Author)

Rustling leaves to the left! Trembling hands and a hammering heart! Your eyes strain towards a sound in the dense underbrush, and a flood of released energy washes over you as its source is located. It was a flicker—tearing up the forest floor.

Why all the excitement? You glance at the beautiful lines of the hunting bow and arrow resting in your lap. The bowstring is secure, the arrow's properly nocked, the broadhead's razor sharp—you note for the hundredth time that everything's ready. The next rustle might be what you're waiting for—a wily white-tailed deer.

The scene is Lake Erie District. For the first time, bowhunters have the chance to bowhunt for deer in Lake Erie District during the entire month of November. It's not the first or only place in Ontario where an archer may hunt for deer, but it is probably the most important.

First of all, this season means a new hunting opportunity. Most of the townships in the District have not had any type of deer season for years because of local fears concerning the use of high-powered rifles in populated areas. With so many deer in some areas, it has been hard for the average sportsman to understand the long-term closures. Now, they have their chance.

Secondly, the new hunting opportunity is exactly where it is needed—in southern Ontario. To participate in northern deer seasons, District hunters have always had to make an extended trip. Traditionally, bowhunting occurs near home. This year, for the first time, that's where it will be for Lake Erie sportsmen.

Thirdly, the new bow season creates an unusual amount of recreational opportunity. Bowhunters commonly spend five to ten days on actual bowhunting, but they spend much more time in preparative activity. An archer, attracted to bowhunting by this season, may spend from 20 to 40 days per year in making equipment, practising on ranges and in the field, pre-season scouting of hunting areas, competing in archery tournaments, and in other archery activities.

Bowhunting in Ontario offers space and time opportunities that gun hunting cannot. For instance, bowhunting is legal in most areas where the discharge of firearms is prohibited. The bow is classified as a firearm under The Game and Fish Act but with the important exception that Sunday bowhunting is legal. These two facts, alone, mean that tremendous new hunting opportunity is being created in settled southern Ontario.

Bowhunting has increased at a great rate in North America since the Second World War. Why? At least part of the reason is probably rooted in man's desire to return to things more simple and primitive. Each time a bow is drawn, the archer is duplicating a motion which has taken place since long before recorded history. Perhaps, it is a romantic desire that leads hunters to "return" to the bow.

Bowhunting for deer is a challenge. The bow is an effective hunting implement only within a range of 60 yards. The average fatal deer shot is released at approximately 25 yards, and an undetected approach to a clever whitetail at that range is difficult indeed. Then there is always the little problem of a deer's ability to leap aside from the flight-path of an arrow if it sees or hears

The bowhunter spends a great deal of time preparing for the hunt.

the shot. For a change, the deer can have the last laugh.

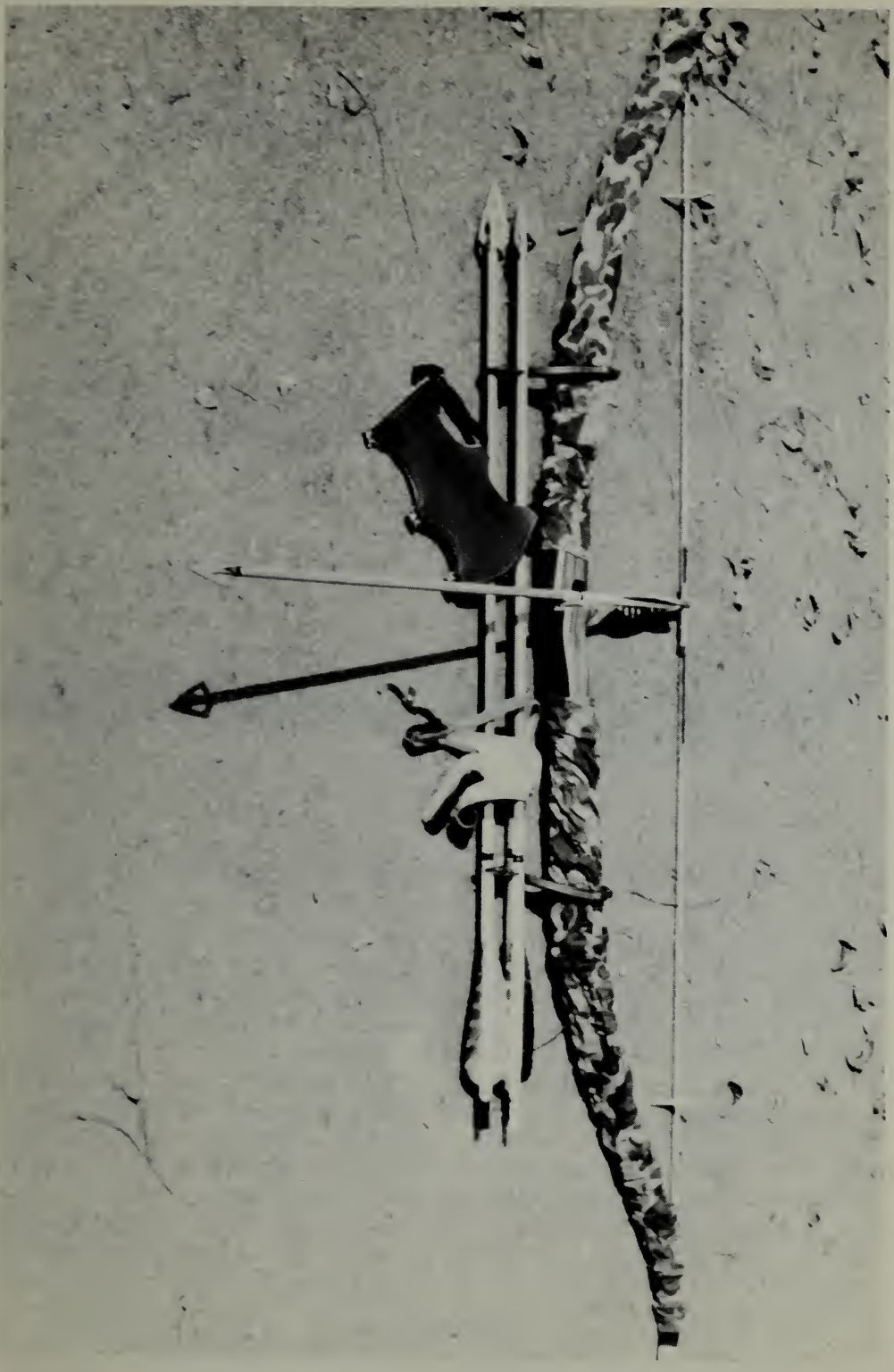
In some ways, bowhunting may be considered the "wildlife manager's dream". It is a high-quality recreational experience. So high is the quality, in fact, that most bowhunters are completely satisfied with the hunt even when they don't bag a deer. Indeed, very few deer are shot by archers. Even in areas with large deer herds and many experienced archers, the success rate is only about four per cent. This is much below the success rate of gun hunters which varies from eight to more than forty per cent across wide areas. The archers' low success rate usually enables their season lengths to be very liberal.

There are other plus factors, too. Bowhunting is quiet and inconspicuous. Most archery seasons come and go without drawing the undue attention of the public.

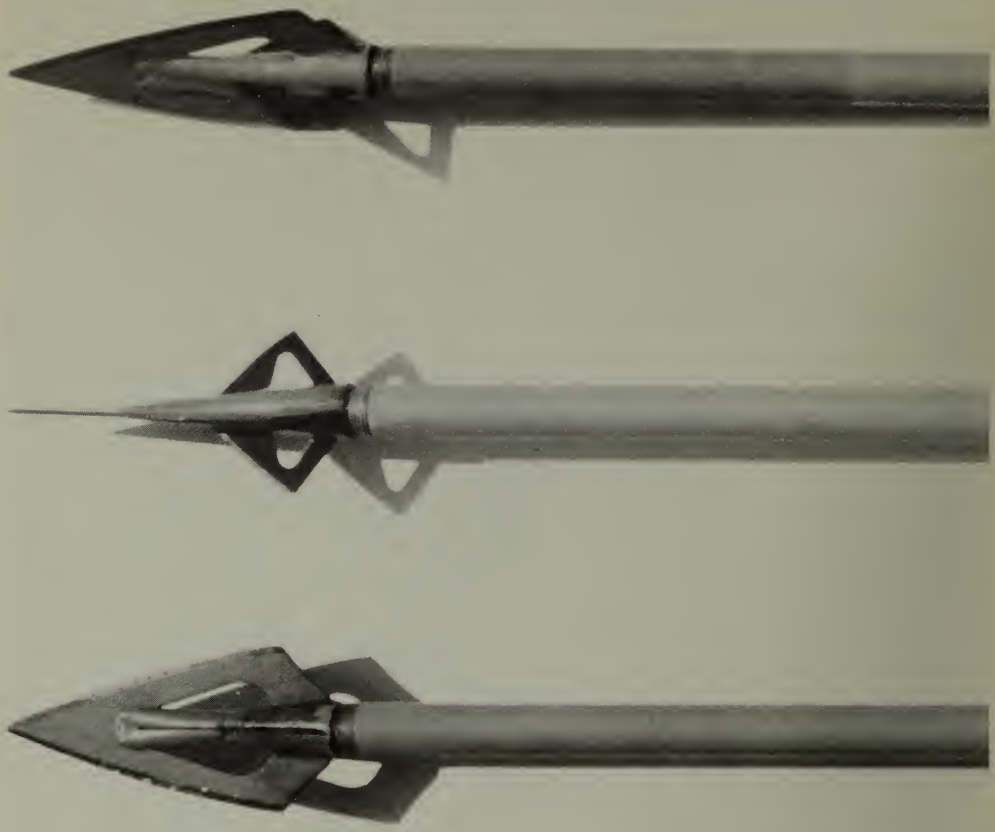
Furthermore, the sport of bowhunting has an outstanding safety record—an average of one fatality per 800,000 hunter-days. To top things off, a recent survey showed that the majority of state and provincial wildlife departments rated the bowhunter as an above-average sportsman.

What about all those deer running around with arrows sticking out of them? What about bow-and-arrow hunting being a cruel and inhumane sport?

These ideas are myths, propagated mainly



The "firearm" you can shoot on Sunday.



The razor-sharp broadhead is an effective hunting implement on large game.

by misinformed persons. Within its range, the bow-and-arrow is an effective hunting instrument, fully capable of making clean kills on large game animals. Many studies have shown that there is no greater wounding rate resulting from bowhunting than from gun hunting. The arrow's effectiveness results from the tremendous hemorrhage caused by a razor-sharp broadhead. It has little or no shock effect. The lack of shock is substantiated by the fact that deer often do not change their manner or actions when hit by an arrow.

In cases of non-vital hits, the chances of recovery are good. Superficial arrow wounds are smaller and cleaner than those of a bullet, and arrows also have less tendency to break large bones.

When the last splashes of fall colour are floating earthward, a new breed of sportsmen will be entering the fields and woods of southern Ontario. The modern bowhunter will face the challenge of pursuing a clever animal on its home ground with a basically primitive weapon. If he bags a deer, he will have earned it.

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THE REBIRTH OF A MARSH

by A. P. O'Donnell
Wildlife Management Officer, Provincial Hunting Areas, Maple District

Since 1968, Tiny Marsh has been the nesting, brooding and staging area for thousands of waterfowl. To understand the success involved in the reclamation of wasted land just a mile and a half east of Nottawasaga Bay, it is necessary to review its history.

If we could take a trip back in time to the middle of the Seventeenth Century and view the marsh through the eyes of Jesuit missionary, Father Francois du Creux, we might see a crystal-clear lake, two miles wide and three miles in length with depths of twenty feet or more, with the shoreline bordered by towering white pine, cedar and hemlock and with black spruce growing thickly along the north shore.

To the south on an open beach was a small Indian village where the inhabitants went about their daily routine of constructing willow weirs and trap nets to catch the myriad pike, trout and suckers. Geese and ducks of many varieties covered the surface of the lake during their migrations when the waters of Nottawasaga Bay were churning up whitecaps.

This is probably what Father du Creux saw when he first mapped it and named it Lac Annuities.

One hundred years later, the voyageurs probably visited the same lake in search of beaver skins. The disappearance of the beaver, due to over harvesting, allowed the dams to crumble and break during spring floods. As the dams deteriorated, the waters receded, and the decline of the lake had begun.

Two hundred years later, the lumber barons, harvesting the valuable white pine, hemlock and cedar, probably cut these trees first because of their close proximity to the open water of Nottawasaga Bay. Man's conquest of nature progressed rapidly from there on, with the first European settlers clearing trees and brush for farmland and building materials.

By the middle of the 19th Century, a map of Simcoe County showed a bog-like area now called Cranberry Lake. At this stage, the lake was still a prime area for waterfowl.

But man, always searching to improve his lot, felt that the bottom of Cranberry Lake would be ideal for farmland, with its black, rich looking, muck. Just prior to and after the Great War of 1914-8, the marsh was drained by local farmers. Miles of ditches were excavated throughout the lake, and the water declined, leaving over a thousand acres of black muck.

Farming was attempted but, alas, the soil was not as fertile as anticipated. Hidden springs made many parts of the lake impossible to farm. The dream of rich agricultural fields faded, and the land fell into disuse, flooding during the spring and drying up in the summer. The thousands of waterfowl, once attracted to the marsh, disappeared and became only a memory to the local residents.

The land remained in this state of waste until 1965 when interested persons, realizing the alarming rate at which our natural resources were declining, planned the restoration of Lake Annuities, or Cranberry Lake. The plan was accepted by the Ontario Government, and the Department of Lands and Forests engineers studied methods of flooding the marsh again. It was realized at this point that the area could not be restored

to its original capacity. The silting of the bottom of the original lake had progressed too far. The rivers and streams, that flowed into the lake in the past, no longer existed.

The only source of water was the spring run-off from melting snow. To trap and hold it throughout the year, a dam was constructed on the Wye River which drained the area. Then, by using the drainage ditches constructed forty to fifty years ago, two more dams were built at the entrance of these ditches into the marsh.

A major problem then arose. Once the marsh was full, what was to be done with the surplus water which might cause flooding by backing up the ditches into the surrounding fields. This was solved by dredging a 1¾-mile by-pass ditch in which the surplus water could be diverted to the Wye River. In 1968, before the spring flood began, all the impoundment constructions were completed.

The results were excellent. The spring run-off was sufficient to flood the necessary 1,500 acres, and once that was reached, the dams were closed. Another dam on the by-pass ditch was opened to divert the surplus water to the Wye River.

The first year of flooding was an instant success for attracting waterfowl. They returned in large flocks, their calls vibrating through the marsh, recreating the forgotten past. With the ducks and geese came other birds, coots, rails, terns, woodcock and gallinules, and mammals such as muskrat, beaver and many others, along with their natural enemies—hawks, owls, raccoons, skunks, foxes and brush wolves.

The nucleus of prime wildlife management area was now established. The series of dams offered excellent water control, and the acquisition of an additional 800 acres of surrounding farms and bush provided opportunities for upland game management.

Up to the present time, many interesting events have transpired at Tiny Marsh Provincial Wildlife Area. Public use of the area has been overwhelming. Over the past four years, 7,200 man-days of hunting have been recorded, with each hunter averaging a respectable 0.9 ducks. Participation in marsh studies by schools and naturalists amounted to 5,000 man-days and is expected to grow steadily each year.

Being able to drain the marsh each winter and reflood again in the spring has enabled us to carry out constructive management programs for waterfowl. An example is the creation of nesting islands. Within the marsh, itself, there are no dry areas on which ducks can nest. This has forced many ducks to nest along the marsh border where they are more vulnerable to predators. The added islands provide more suitable nesting sites and thus increase the nesting population in the marsh.

Early attempts to form nesting islands involved large bales of hay, scattered about the open area of the marsh. However, in the spring many of these islands were torn apart by muskrats, and their use by ducks was extremely poor. Later, large earthen islands, excavated by drag-line machinery, proved more successful. These islands are ideal for nesting ducks and each year record successful nests, unmolested by some of the numerous predators found in the area. They also become the focal point for other mammals and birds within the marsh.

Two sanctuaries have been established in the marsh where upwards of 5,000 ducks and geese have been observed getting a free meal as they rest protected in the fall, preparing for their long flight south.

Duck banding has progressed rapidly with 2,317 ducks banded to date and a tentative target of over 1,000 proposed for 1972.

The surrounding fields and forests are undergoing changes also. Wildlife shrubs, such as mountain ash, red osier dogwood, Russian olive, nannyberry, etc., are planted each year to restore the barren fencerows with advantageous cover and food-producing plants. The bush, long since matured into non-marketable timber, with little animal life apparent in its darkened understorey, is being cleared in scattered half-, to one-acre plots, allowing the sun to once again reach the forest floor and bring to life the sumptuous plant and shrub growth necessary for

Tiny Marsh in spring. Photo by T. Jenkins.

food and cover for grouse, woodcock, rabbits and deer.

All successful projects are not without their problems and setbacks. In the marsh, the flow of water each spring brings with it all the surplus phosphates and nitrogen fertilizers from the surrounding fields. These have enriched the soil of the marsh at an alarming rate. The cattails which, when distributed in patches, offer excellent cover for waterfowl, now cover close to one-third of the marshbed with their thick mat.

Action was taken to solve this problem in 1971. A dyke was constructed, dividing the marsh into two equal areas, and another dam was constructed, permitting water to enter the by-pass ditch. Cattail control requires draining the marsh for a summer. We could have done this quite easily with the previous water control, but this would have resulted in the loss of thousands of the waterfowl produced each year.

With the new dyke, we can control the water impoundment on either half of the marsh and carry out our improvements throughout the summer with loss to less than half of our waterfowl production. Future growth will increase as more nesting

Excavating duck ponds in Tiny Marsh. Photo by T. Jenkins.

area is made available by the removal of the cattails.

Another problem is the heavy man-use of the area. Good hunter success has attracted more sportsmen than the area can accommodate, and since our policy is to produce quality hunting under ideal conditions, the overcrowding is making this impossible. In 1972, hunter participation is being limited during peak days.

What is the future of Tiny Marsh?

The pheasant hunt, which took place in the open fields surrounding the marsh, will be reduced. More areas for upland game hunting have been purchased to supply this recreation, and we can now set our sights on Tiny Marsh as mainly a waterfowl area.

A giant-Canada-goose program commences this year, and its potential for goose production, and as a tourist attraction, is promising another facet in wildlife management. Ten years hence, the marsh may become a major showplace of waterfowl management.

The multiple-use concept of a management area is now in full swing. A full interpretive program, with trails, theatre and displays, is under development. Dog trials are planned, and a full inventory of our natural resources is commencing this summer.

What is Tiny Marsh?

It is an achievement in man's willingness to restore his natural resources. It is a waterfowl marsh in harmony with people—to observe, to enjoy, to use.

WHERE TO FIND RED-TAILED HAWKS IN ONTARIO

by W. A. Creighton
Ornithologist, Wildlife Branch

The red-tail is a raptor of the open countryside—of meadows, hills, and valleys. It is one of our largest soaring hawks and is often seen circling in the air on thermal updrafts. High in the sky or perched on the limb of a tree, it is constantly on the search for mice in grassy fields.

FIELD IDENTIFICATION

The red-tail belongs to the genus *Buteo.* These are birds of prey which are characterized by large, rounded wings and a broad, short tail. Adult male red-tails are 19 to 22 inches long and weigh about 2½ pounds, while adult females are 21 to 24 inches long and weight three pounds.

A soaring red-tail can be identified by its whitish tail (which has little or no barring), a light chest, and a streaked belly. As it veers in flight, the rufous upper surface of the tail may be seen.

When this hawk is perched on a tree, the rufous tail is seen to have a black band near the white tips. The rest of the upper plumage is dark brown, intermixed with white and rufous.

Immatures are similar to adults, but the upper side of the tail is a pale brown. Their plumage colouration is generally darker, contrasting more with white.

LIFE HISTORY

After wintering in the southeast and south-central United States, red-tails usually arrive in Ontario by the end of February or early in March. Their breeding ground distribution is extensive and relatively uniform across boreal and mixed forests.

Red-tails establish a territory which they defend against others of their kind. They tend to re-occupy the same territory and even the same nest in consecutive years. One breeding pair occupies upwards of three square miles as their territory and hunting range. This spacing of nests generally ensures adequate food for all nesting pairs and their offspring. They feed mainly on various species of field and wood mice, squirrels, and young groundhogs.

Red-tail courtship takes place high in the air over the woods where the birds will nest. Joint flight manoeuvres—soaring in circles, crossing and re-crossing each other's paths as they glide higher and higher—are part of their courtship behaviour.

Nests are built from 30 to 70 feet above the ground, primarily in deciduous trees but within evergreen stands. Small woodlots of tall trees are preferred, and the nest is usually on or near the edge of the woodlot.

The nests are large structures, up to 48 inches in diameter and up to 36 inches in depth. They are built with sticks and twigs and lined with strips of bark, grapevine and lichen. Green sprigs of pine, cedar or hemlock are sometimes used to line the nests during incubation and the earlier stages of the growth of the young.

The clutch varies from two to four eggs which are dull white to faintly bluish white in colour. Markings occur in regular or irregular patterns of dull reddish or yellowish browns.

The incubation period is 28 days, and hatching usually begins the last week in April or the first week in May. The male

The red-tail is one of our largest soaring hawks. Photo by D. G. Watton.

brings food to the female while she is incubating and later helps to feed the young.

Studies have shown that the average number of young in a red-tail nest is 1.9, and that the average number successfully gaining flight (fledgling) is 1.4. By the time the young are four weeks old, they are nearly fully grown and almost fully fledged, with the last of the woolly, white down persisting on the head, central belly and legs.

VIEWING

Hawks migrate during the daytime, taking advantage of warm air thermals arising from the land, as well as updrafts from winds deflected by hills, cliffs and bluffs. They avoid flying over large bodies of water.

In the fall, red-tails tend to migrate south in greatest numbers on the second day after a cold front when there are steady north-west to west winds and ample sunlight to produce thermals. In the spring, they tend to move north during warm fronts when there are south to south-west winds and strong thermals. In the fall, they tend to converge in their migration, while in the spring their pattern is more dispersed.

If you wish to see red-tails migrating in appreciable numbers, you should study weather maps and forecasts to predict the times and places of migration.

In the last of September and early October, the heaviest flights of red-tails may be seen at Sarnia, on Lake Erie from Long Point westward, on Lake Ontario from Cobourg westward, and at the narrows of St. Mary's River near Sault Ste. Marie.

From February to mid-March, migrating red-tails may be observed on the Niagara Peninsula from Niagara Falls to Hamilton, and from Kingston eastward.

In early spring, nature lovers watch for the courtship flights of red-tails. As the year progresses, they observe their hunting forays and listen to their flight calls.

These magnificent birds thrill groundlings with their spectacular feats of flying. To see them in the sky and hear them call is worth the effort of discovering their favourite haunts.

A red-tail establishes a territory and defends it.

An airplane calls on an isolated Indian trapper to pick up furs . . . . but the Indian family's snowshoes are still home-made in the old way. Photo by Cees Van Gemerden.

THE DEER IN INDIAN CULTURE

by William R. Mathison, Wildlife Branch

To the early Indians, the deer was a walking delicatessen, haberdashery and hardware store. As a source of food, clothing and tool-making materials, it was very important to the Iroquoian culture that evolved around 1200 A.D., and it helped to fashion the customs, lifestyle and mythology of the tribes, including the Hurons of southwestern Ontario.

By 1600, the Iroquoian culture was a highly developed and organized agricultural society. Agricultural produce accounted for 70 per cent of the food supply and provided a surplus which the Iroquoians traded within their political confederations and with the Algonkians* for fish, game and birch bark canoes.

Although the Iroquoians did not depend on hunting for their livelihood, the deer was vital to their way of life. It was a major source of raw materials, and it added variety and flavour to their corn recipes.

Hunting, a main preoccupation of males, was popular because of its resemblance to war. The weapons and often the ambush tactics of the hunt were the same as those used in warfare. Limited by primitive short-range weapons, the Iroquoians had to exert a determined and concentrated effort to secure game, but their high level of organization made them skilful hunters. Great hunts were prepared for by fasting and rituals which induced visions.

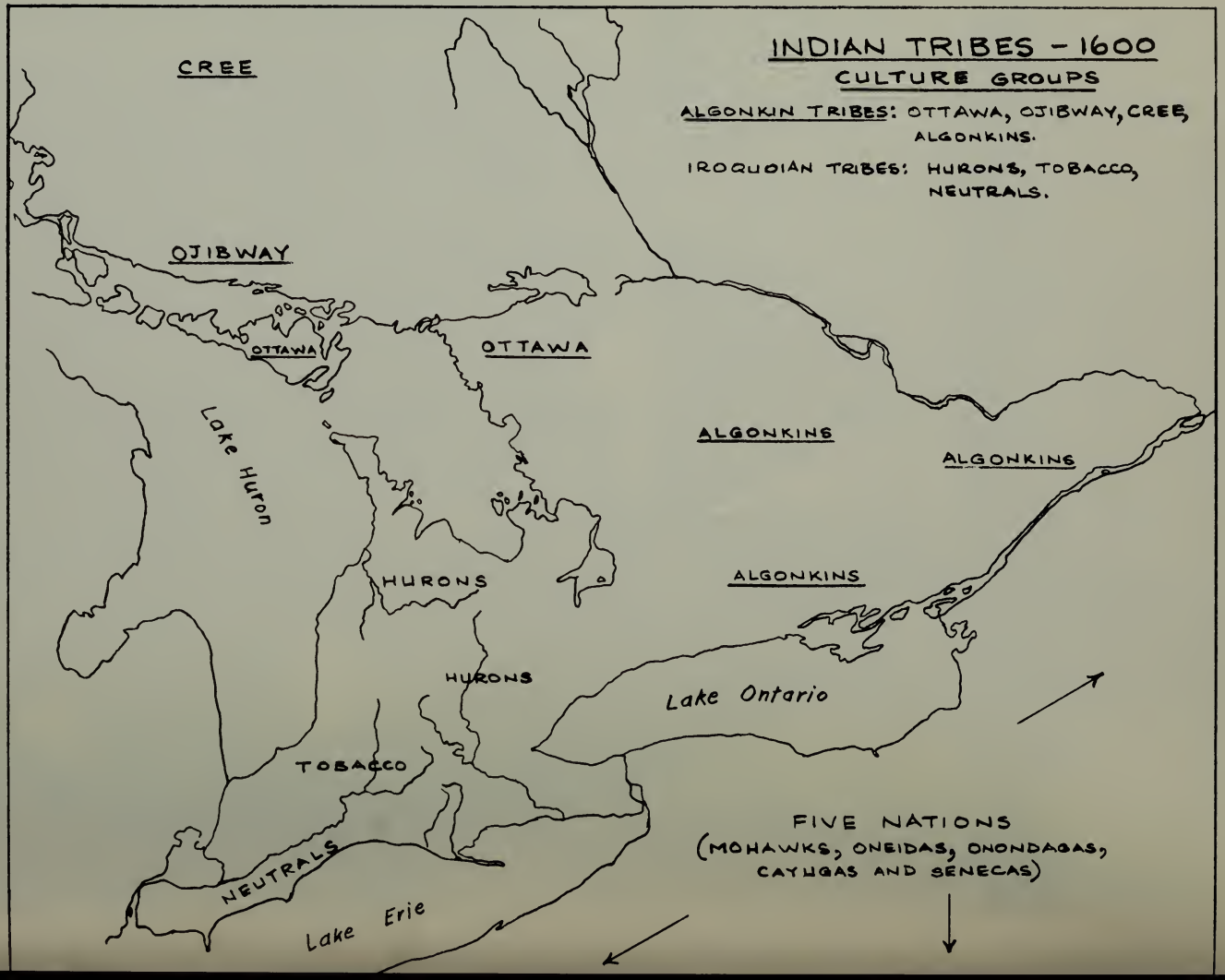
Indian hunting techniques varied according to season, landscape and number of deer sought, but deer driving was the chief method. One practice was to surround a deer yard and gradually close the circle until the deer were trapped. In other cases, deer were driven into water where they could easily be killed from canoes, or chased onto thin ice where they would break through and be trapped. Champlain described another method which consisted of driving the animals along fence lines into a deer trap.

The ingenious Indians also captured deer by stalking, jacklighting, tracking them down on snowshoes, or by trailing them with a dog. A good stalker was held in high regard because of the skill needed to get within bow range. Deer dogs were trained to follow the scent without barking. The Indian had to be a proficient hunter if he was to get his deer.

Deer were a staple meat supply and important to Indians as each kill provided from 60 to 100 pounds of meat. Archaeological evidence from Iroquoian sites in Ontario indicates that deer and beaver were the chief meat sources. Bear, dogs, small game and fish made up the rest of the meat supply.

Indians wasted no part of the game. They ate everything including brains, intestines and protein-rich bone marrow. Deerskin, or

*The Algonkians were basically a hunting and gathering society with no agriculture. Hunting and fishing supplied more than half their needs, supplemented by maple sugar, wild rice, berries, roots and other vegetable foods. They were skilful hunters but often had to face the problem of starvation in winter. Their loose organization in bands did not allow them to develop into a highly organized society and stage large communal hunts like the Iroquoians. Generally, the white-tailed deer was of minor importance as they occupied only the northern fringe of the deer range. The moose was their main game animal.


INDIAN TRIBES - 1600
CULTURE GROUPS
ALGONKIN TRIBES: OTTAWA, OJIBWAY, CREE, ALGONKINS.
IROQUOIAN TRIBES: HURONS, TOBACCO, NEUTRALS.
CREE
OJIBWAY
OTTAWA
OTTAWA
Lake Huron
ALGONKINS
ALGONKINS
ALGONKINS
HURONS
HURONS
Lake Ontario
TOBACCO
NEUTRALS
Lake Erie
FIVE NATIONS
(MOHAWKS, ONEIDAS, ONONDAGAS, CAYUGAS AND SENECAS)

Chisel-like object, made from antler.

"buckskin", provided material for moccasins, leggings, loin cloths, shirts, skirts, blouses and dresses.

The bones and antlers of the deer were the Indians' most important tool-making materials. More artifacts made of deer bone or antler have been found on prehistoric Iroquoian sites in southern Ontario than of any other material.

Deer bone, usually from the leg, was made into a variety of tools—awls, hoes, hide scrapers, corn scrapers (from a lower jaw bone), stone working tools, knife-like tools, and meat cutting tools, and harpoons and pikes. Deer bone was widely used to make artifacts of a social nature such as scapulae, pipes, combs, knee and ankle rattles (from the horny part of the hoof), phalange beads, pendants, and units for the "cup and pin" game. A kind of die was made from the foot bone for a primitive crap game.

Antler, while not used as much as bone, was made into arrows, harpoons, pike points, wood working tools, stone working tools, awls, and handles for stone knives. It was also used to make combs, armlets, wristlets, and ceremonial and medicinal powder measures.

On another level, deer contributed to the complexity of Indian social customs and religious beliefs. Indians believed that deer and other wildlife had "reasonable souls" and had to be treated honourably after the hunt and kill to ensure that further hunts could take place. Each Indian had his own "armorial bearing" which represented the "genius" or spirit that guided him in life and whose qualities he possessed. Jesuit records often refer to deer in this context.

Deer occur in Indian mythology. One tale, a Cain-and-Able myth, tells how a good son defeats an evil one with the antlers of a deer.

The Indians offered deer skins on ceremonial occassions in much the same manner as the white man offers flowers and gifts at funerals and weddings. A deer skin would be proffered to appease the family of an individual who had been murdered. A brave would present a deer skin to the father of a girl he was courting.

Finally, the word, "deer", was used to name various tribes and clans in the Huron and Iroquois nations.

Far from being just a tourist attraction and a sporting target for hunters, as it is today, the deer was an integral part of the Indians' way of life.

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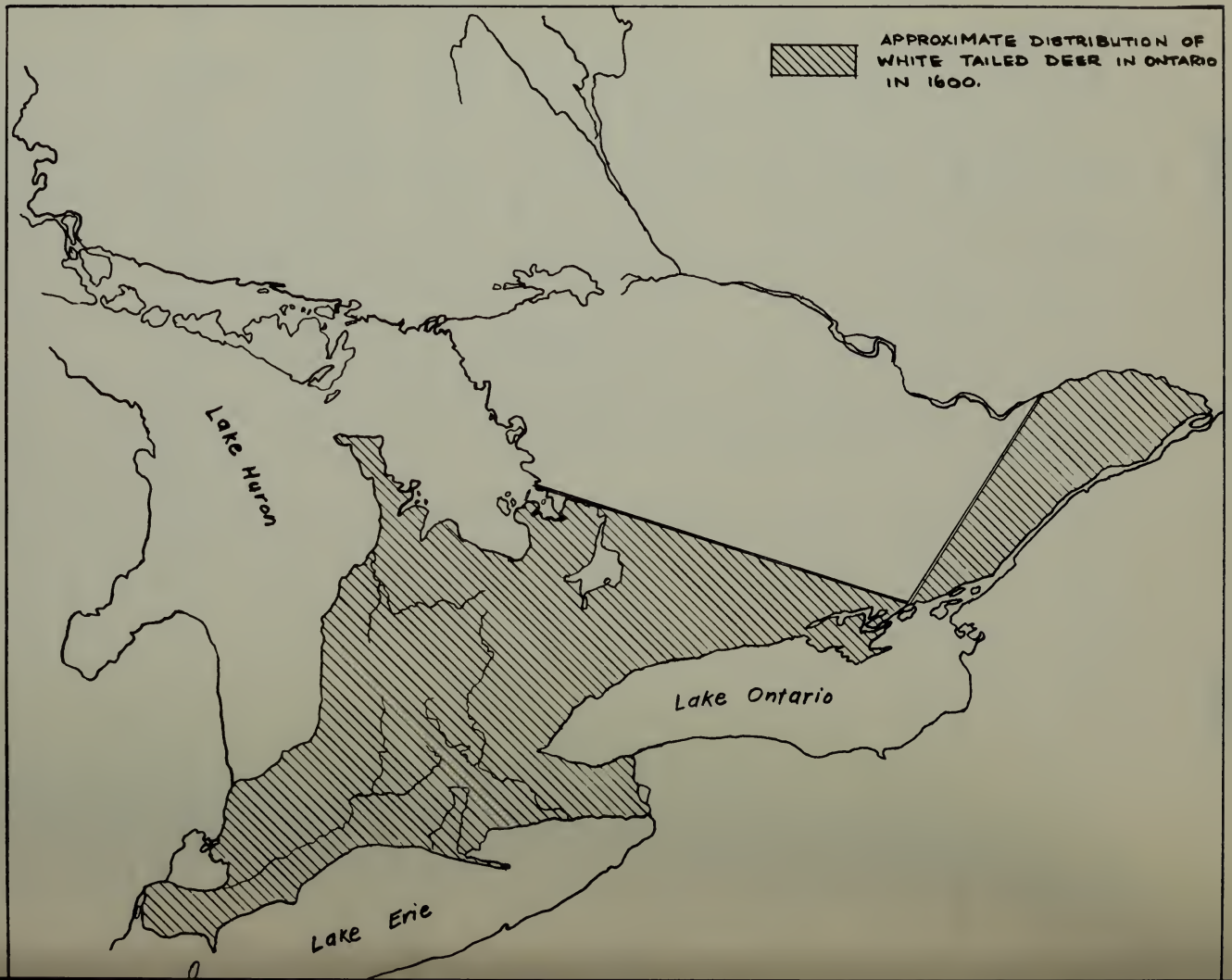
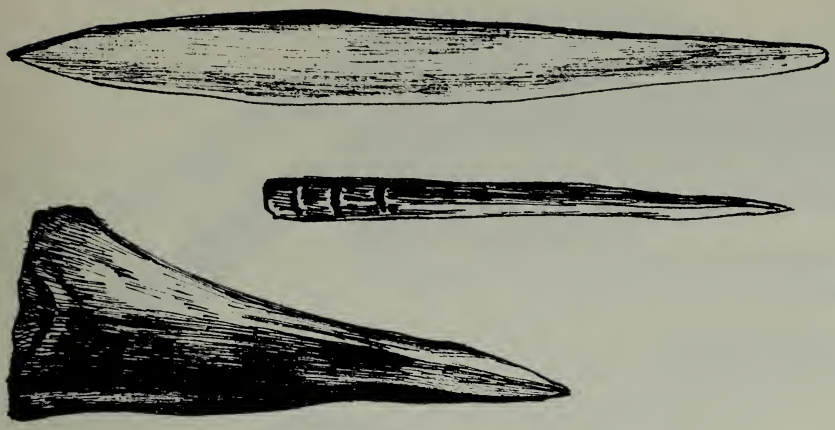
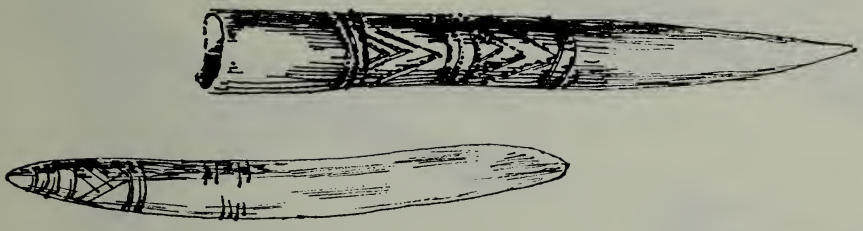

APPROXIMATE DISTRIBUTION OF WHITE TAILED DEER IN ONTARIO IN 1600.
Lake Huron
Lake Ontario
Lake Erie

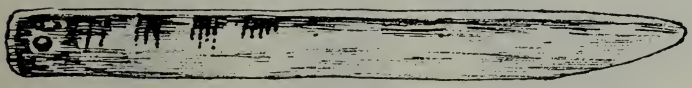


Indian artifacts, found in Ontario, include these three awls made from deer bone. One is smooth and one decorated. The third was made from the proximal end of deer metacatpus.

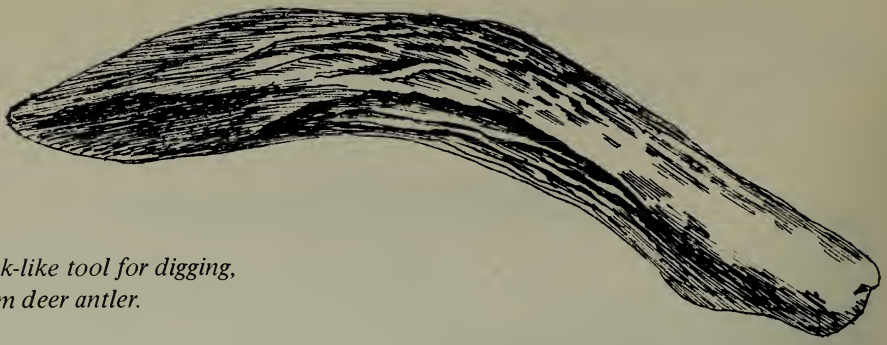


Engraved bone blades.

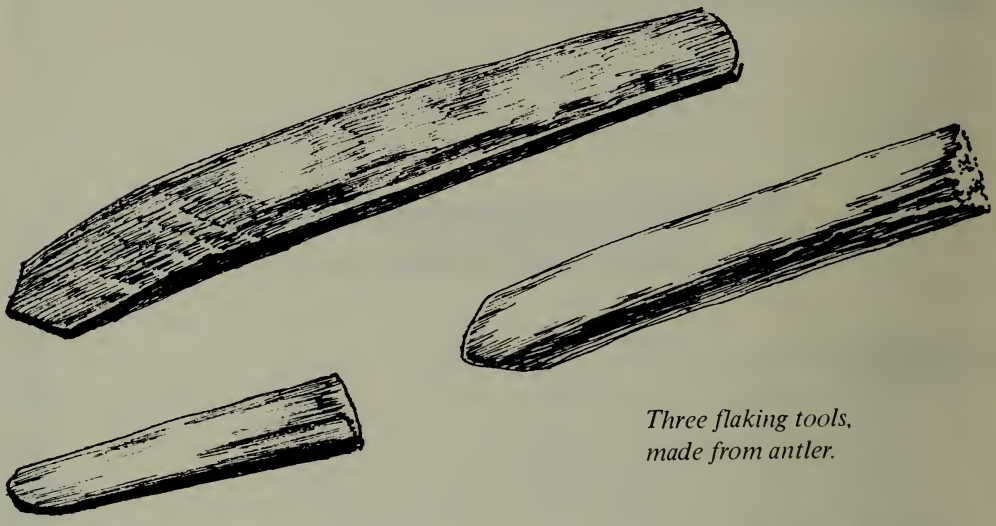
An arrowpoint, made from antler.



Netting needles, made from deer bone. Note perforation.



A mattock-like tool for digging, made from deer antler.

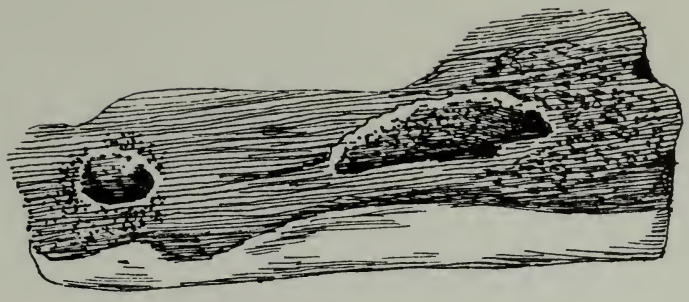


Three flaking tools, made from antler.

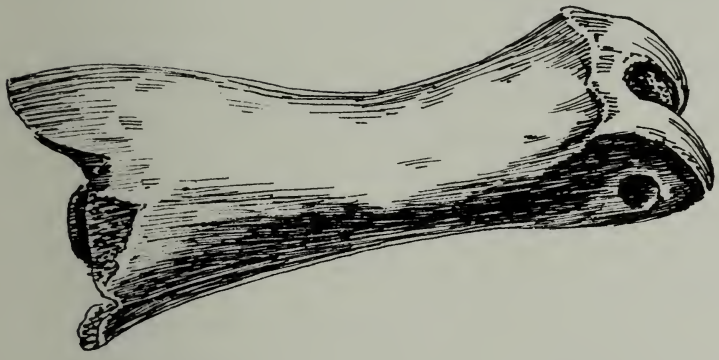
A pierced armlet, made from antler.

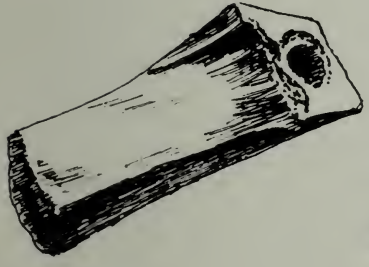
An antler comb.

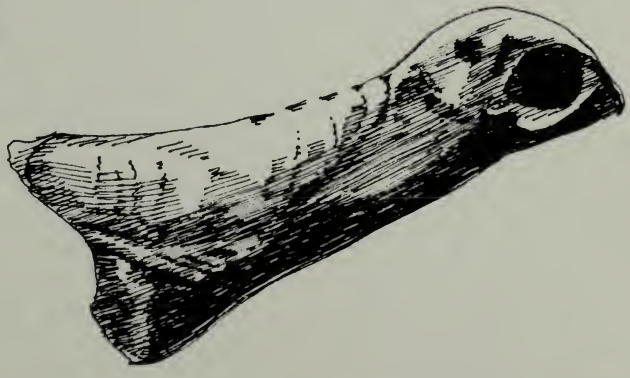
Two beads, made from the distal joint of the proximal phalanx.



Ground phalange, possibly used as die in Indian game of chance.







Four Indian artifacts, possibly used in cup-and-pin game.